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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,670	03/20/2006	Asa Elisabeth Gladwin	PB60517	4600

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EXAMINER	
BERNHARDT, EMILY B	
ART UNIT	PAPER NUMBER
1624	

NOTIFICATION DATE	DELIVERY MODE
02/13/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

US_cipkop@gsk.com

Office Action Summary	Application No.	Applicant(s)	
	10/572,670	GLADWIN, ASA ELISABETH	
	Examiner	Art Unit	
	Emily Bernhardt	1624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,13-15 and 17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,13-15 and 17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/20/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

The abstract of the disclosure is objected to because it does not convey the nature of the invention by way of a structure or compound name. Correction is required. See MPEP § 608.01(b).

Claims 1-10,13,15 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1. Claims 1-5 and 7-8 appear to be substantial duplicates as the only difference is the recitation of particular characterizing data or more complete X-ray powder diffraction peaks for claims 2-5. For claims 7 and 8 the purity and crystalline nature recited appears to be inherent in the compound recited in claim 1 which has been necessarily isolated and purified in order to obtain the recited data. Thus it is not seen how infringing one dependent claim would not also infringe remaining dependent claims and how these claims further limit claim 1.

2. Claim 6 requires the compound be isolated. From a reading of the specification this is meant to exclude when admixed with other materials, other polymorphs. It is not seen where this is covered by claim 1.

3. Claim 10 is not seen to further limit claim 1 since reciting an intended use in a compound claim is given no material weight. Note In re Tuominen 213 USPQ 89.

4. Claims 13 and 17 are duplicates since the only difference is in the intended uses. Note that intended uses in such claims is given no material weight. See In re Tuominen 213 USPQ 89 and MPEP 2111.02.

5. Claim 15 is of indeterminate scope for more than one reason. Defining a disease(s) by its (their) underlying cause or mechanism of action renders the scope of intended uses indeterminate since the claim language may read on diseases not yet known to be caused by or affected by such action or in ways not yet understood. Additionally, there are many receptors/enzymes to which a compound can interact with and promote such growth, for example, the AMPA receptor, metalloproteinase and many others so determining whether a given compound promotes neuronal growth involves much experimentation since a negative response from one patient does not mean the drug isnt useful as no drug has 100% effectiveness. Thus what success rate determines if a particular inhibitor is effective and how many patients (and dosage regimens) need to be tested? The test for determining compliance with 35 USC 112, par. two is whether

applicants have clearly defined “their” invention not what may be discovered by future research as this type of claim language clearly requires.

Claims 14 and 15 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for treating anxiety,depression, schizophrenia and mild cognitive impairment, does not reasonably provide enablement for remaining uses covered by these claims. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. The notion that simply having the ability to antagonize at 5HT6 receptor sites will enable the treatment of neurological disorders such as Alzheimer's or other age-related dementias, ADHD or obesity has not been substantiated by the current state of the art. While treating depression and schizophrenia has been reasonably linked to 5HT6 receptor binding since drugs that treat these uses have an affinity for this receptor, there is no basis in the pharmaceutical art for asserting all the uses being claimed. See Robichaud or Bromidge as examples of the current state of the serotonin receptor art antagonists . There is no teaching that treating Alzheimer's per

se can be effected by such a class of antagonists. Note Rogers discusses the possibility of enhancing cognitive processes which in turn would provide **symptomatic** treatment for dementia. See p.114, right column. In searching Medline for obesity or ADHD and 5-HT6, no hits were found indicating evidence of one or more 5-HT6 antagonists undergoing clinical trials for these disorders. Thus the uses being urged are not all in currently available form based on the activity relied on and the specification provides only a starting point for further research. Note Genentech vs. Novo Nordisk 42 USPQ 2d 1001 especially left column at p.1005.

Note the criteria for enablement as set out in In re Wands cited in MPEP 2164.01(a),August 2000 edition. Thus given the level of skill in this art which is low (for the treatment of all class of disorders being claimed) and the lack of direction (i.e. art-recognized tests) provided as to what might be treatable and in what dosage compounds are to be administered, this rejection is being applied.

Copies of the above documents are not being provided herein as applicants or the examiner has provided them in commonly assigned 10/571,405.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-10,13-15 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Ahmed (WO'580 cited by applicants). As applicants' claimed subject matter is described in foreign priority papers, Ahmed is only applied as of its international filing date which precedes applicants' foreign priority date. Ahmed teaches a compound (eg.16) which has the same structural formula as herein and is taught for uses claimed herein, as discussed on p.11-12.

While the compound in the example of Ahmed lacks any mention of X-ray data or IR relied on herein, note MPEP 2112 which states: "SOMETHING WHICH IS OLD DOES NOT BECOME PATENTABLE UPON THE DISCOVERY OF A NEW PROPERTY. The claiming of a new use, new function or **unknown property** [**bold emphasis added**] which is inherently present in the prior art does not necessarily make the claim patentable. In

re Best, 562 F.2d 1252, 195 USPQ 430 433 (CCPA 1977)." In this case the "unknown property" is the particular crystalline form present in the prior art. Applicants need to show that the compound in Ahmed is NOT instant Form by a comparison employing art-recognized techniques for compounds claimed and that described in the art. Note also Ex parte Anderson 21 USPQ 2d 1241, especially at 1251. It is noted that egs. 51 and 52 have markedly different melting points and as well as differences in the additional data reported in Ahmed. Composition claims 13 and 17 are rejected regardless of initial form present since once in solution the polymorphic forms would be indistinguishable. The choice of "carrier" includes liquid formulations.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-10,13-15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahmed. The teachings of Ahmed as discussed in the above 102 rejection are incorporated herein. Should eg.16 in Ahmed not anticipate the instant form III, the claimed polymorph is otherwise an

obvious variant given the teachings of Ahmed which includes polymorphic forms as stated on p.4. Applicants rely on conventional procedure to make instant form III, namely recrystallization from ethanol in an ice bath or isopropanol, the latter crystallization being conducted at very cold temperature. However it is noted that other examples in Ahmed employ ethanol as the recrystallization solvent . See example 2 in Ahmed. Additionally it is well known in the polymorph art that varying temperature of a particular solvent can also affect which form will be produced. See for example a discussion by Khoshkoo on p. B92-93. Thus, it would seem that preparation of instant form III via conventional recrystallization solvents, ethanol, and isopropanol, also used by the art, could following routine modifications if needed, such as varying the temperature, produce other polymorphic forms within the ordinary skill of the art.

The examiner was unable to find the US equivalent for Ahmed. If one exists, its identification is requested as double patenting rejection may be appropriate.

Commonly assigned Johnson is being made of record. It is not a competent reference and the claims are drawn to piperazines with substitution thereon not claimed herein.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily Bernhardt whose telephone number is 571-272-0664.

If attempts to reach the examiner by telephone are unsuccessful, the acting supervisor for AU 1624, James O. Wilson can be reached at 571-272-0661. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Emily Bernhardt/

Primary Examiner, Art Unit 1624

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